

24 June 2005

from MMS SMART Proposal – p. 37 – per spacecraft numbers/page E-17 of CSR  
in all modes listed below, IDPU outputs to CIDP at burst rate

Dual Ion Spectrometer (DIS) Survey Modes			
	Slow Survey	Fast Survey	Burst
time/day in mode	14.4 hours (60%)	9.6 hours (40%)	173 seconds (0.2%)
angular resolution (spacecraft)	22.5 deg x 11.3 deg	11.3 deg x 11.3 deg	11.3 deg x 11.3 deg
active heads	1	4	4
total angular pixels	256	512	512
post-polar angle collapse pixels	128	256	256
energies	32	32	32
total transmitted elements	4,096	8,192	8,192
cadence (s)	64.0	4.0	0.250
sampling period (s)	64.0	0.250	0.250
word length (bits)	8	8	4 (see note below)
data rate to s/c if uncompressed	8 bits/elem*4,096 elem/64s = <b>0.512 kbits/s</b>	8 bits/elem*8,192 elem/4.0s = <b>16.4 kbits/s</b>	8 bits/elem*8,192 elem/0.250s = <b>262 kbits/s</b>
telemetry allocation	0.128 kbits/s	4.10 kbits/s	100 kbits/s
compression factor	<b>4.0</b>	<b>4.0</b>	<b>2.6</b>

### Stepping Behavior

-The desired approach to scanning will be to hold fixed the look direction and then cycle through energy steps providing a crude spatial but complete energy distribution every 60 milliseconds.